FIELDIANA · ZOOLOGY

Published by

CHICAGO NATURAL HISTORY MUSEUM

Volume 39 JULY 25, 1961 No. 49

On the Nomenclature of Certain Whales

PHILIP HERSHKOVITZ
CURATOR, DIVISION OF MAMMALS

The following notes were made during the course of compiling data for the section on Cetacea in a checklist of recent South American mammals.[1] Nearly all names discussed are those of cetaceans not restricted to South American waters.

Generic Names for Risso's Dolphin and the Killer Whale

Grampus Gray, 1828, for Risso's dolphin, and *Orcinus* Fitzinger, 1860, for the killer whale, are names currently recognized by most European authors. In 1933, however, Iredale and Troughton (Rec. Australian Mus., **19**: 28–36) transferred *Grampus* Gray, 1828, to the killer whale and erected *Grampidelphis* for Risso's dolphin. This rearrangement was adopted by some North American mammalogists (cf. Miller and Kellogg, 1955, List of N. Amer. Recent Mamm., pp. 661, 662; Hall and Kelson, 1959, N. Amer. Mamm., pp. 824, 826), without heed to objections voiced by Ellerman and Morrison-Scott (1951, Checklist, Palaearctic and Indian Mamm., p. 739) and Schevill (1954, Jour. Mamm., **35**: 124). The present conflict may be resolved by a review of the history of the technical names involved.

Grampus was introduced by Gray in 1828 (Spicilegia Zoologica, **1**: 2) as a subgenus of *Delphinus*. It was characterized as "caput globosum; rostro depresso, longitudine capitis; dentes cylindrici, curvati." The included species were *D. griseus* Cuv., *D. grampus*, Linn. (sic), *D. globiceps* (=*Globicephala melaena* Traill), and the following, described as new: *Delphinus* (*Grampus*) *acutus* (=*Lagenorhynchus acutus* Gray), *D.* (*Grampus*) *Heavisidii* (=*Cephalorhynchus heavisidii* Gray) and *D.* (*Grampus*) *obscurus* (=*Lagenorhynchus cruciger* Quoy and Gaimard).

Gray made no overt designation of a type species. In this case, the tautonym "*D. Grampus*, Linn [aeus?]," would automatically be-

[1] Aided by a grant from the National Science Foundation.

Library of Congress Catalog Card Number: 61–16636

come the type were it not for the fact that this name is a *nomen nudum*. Linnaeus never proposed it and Gray did not indicate the species of delphinid or "grampus" to which the name must be applied. The practice at the time, however, was to recognize as type of a genus either the first (or only) species mentioned or any of the species on which the generic diagnosis was based. *Delphinus griseus* Cuvier satisfied both requirements and was universally regarded as the type of *Grampus*.

In 1828, Lesson (Ferussac Bull. Sci. Nat., **16**: 116) reviewed Gray's article containing the description of *Grampus* and regarded the genus as equivalent to his own *Globicephalus* (sic) based on *Delphinus globiceps* Cuvier (=*Globicephala melaena* Traill) and *D. rissoanus* Cuvier (=*Grampus griseus* Cuvier). A second review of Gray's *Spicilegia* appeared the next year (Zool. Jour., **4**: 497). Here the statement "typical species *Delph. Grampus* Linn." is made, but the anonymous reviewer failed to define the species. The name, therefore, remained a *nomen nudum*. Had it been described, validation of the name would date from the anonymous author, 1829, and not from Gray, 1828. In this case, *Delphinus grampus* Anonymous would be a species not certainly included in the original description of *Grampus* and cannot be considered in determining the type of the genus (cf. Règles, Art. 30 II *a*). The name would also be a junior homonym of *Delphinus grampus* Blainville, 1817, a synonym of *D. orca* Linnaeus.

In 1846, Gray (Zool. Voy. H.M.S. *Erebus and Terror*, **1**, Mamm., p. 30) revised *Grampus* by dividing it into the four genera shown above in parentheses and leaving only *Delphinus griseus* Cuvier, renamed *Grampus Cuvieri*, in the restricted genus. This action may be construed as a selection of *Delphinus griseus* as type of *Grampus* Gray, 1828 (cf. Règles, Art. 29). Later authors, including Gray, conferred the tautonym "grampus" on *Delphinus griseus* and finally, in 1862, Reinhard (Overs. Kongl. Danske Vid. Selsk. Forh., pp. 107, 148 and footnote 1) formally declared this species the type of the genus.

In 1933, Iredale and Troughton (Rev. Australian Mus., **19**: 28) discovered that on page 23 of the 1922 edition of Lydekker's *Guide to the British Museum Collection of Cetacea* the vernacular "grampus" was mentioned once as an alternate name for the "killer," while *Grampus* Gray was recognized as the scientific name for Risso's dolphin. This seemingly ambiguous state of affairs inspired Iredale and Troughton to apply prompt remedial action. The authors first averred that grampus had been used as a vernacular name for many

kinds of cetaceans but mostly, they thought, for the killer. Next, they pointed to a killer called grampus by Hunter (1787, "Phil. Trans., xvi, p. 306, . . . pl. 5, figs. 1–2 [but should be 77, pt. 1, p. 373, pl. 16]"). Then followed the deduction that inasmuch "as Gray was notorious for careless writing and not reading proof carefully, it is most probable that the familiar 'Linn.' [in the *nomen nudum Delphinus grampus* Linn.] was merely a simple error for the less usual abbreviation of 'Hun.' for Hunter." Ergo, the type species of *Grampus* Gray, 1828, is "*Delphinus grampus* 'Linn.'=Hunter"=*Delphinus orca* Linnaeus or the killer whale.

All this and more too painful to recite is sheer fantasy. Hunter never used the binomial *Delphinus grampus*. He used only the vernacular grampus for the killer and he employed the same name in the same paper for other toothed whales, including the common porpoise, *Phocoena phocoena* Linnaeus. Had Gray intended to base his *Delphinus grampus* on the grampus of Hunter, he could only have had the common porpoise in mind as this is the animal discussed under *Grampus Cuvieri* in his 1846 revision of the genus (Zool. Voy. H.M.S. *Erebus and Terror*, **1**, Mamm., p. 31).

As for the killer, Gray's original definition of *Grampus* excludes it. Indeed, Gray made the killer the type of a distinct genus for which he proposed the eminently appropriate but preoccupied name, *Orca*.

Nomenclatorial "stability" such as was sought by Iredale and Troughton cannot be attained by electing a *nomen nudum* for genotype and then defining it as fancy dictates. *Grampidelphis* Iredale and Troughton, 1933, proposed as a substitute for *Grampus* Gray, 1828, is a gratuitous synonym. *Orcinus* Fitzinger, 1860, never *Grampus* Gray, remains as the correct generic name for the killer.

Still another name enters into the discussion. According to Iredale and Troughton (op. cit., pp. 30–31), *Grayius* Scott (1873, Mammalia recent and extinct, p. 104) had already been proposed as a seemingly more appropriate generic name for Risso's dolphin. This name, however, they rejected because it was "preoccupied by Bonaparte 1856, Günther 1858, Bate 1862." Hence, their own *Grampidelphis* was offered as a substitute. I have not seen Scott's work, which is described as "an elementary treatise for the use of the Public Schools of New South Wales." If correctly cited as *Grayius*, the name proposed by Scott is not preoccupied by *Graya* Bonaparte, 1856 (a bird), *Grayia* Günther, 1858 (a reptile), *Grayia* Bate, 1862 (a crustacean), or anything else. Thus, *Grampidelphis* Iredale and

Troughton appears to be a superfluous as well as gratuitous synonym of both *Grampus* Gray and *Grayius* Scott.

Tursiops nesarnack Lacépède, 1804, Valid Name for North Atlantic Bottlenosed Dolphin

Delphinus nesarnack Lacépède (1804, Hist. nat. cétacées, pp. xliii, 307, pl. 15, fig. 2 [animal ex Bonnaterre]) is based on the nesarnak described and figured by Bonnaterre (1789, Tabl. Encycl. Méth. Cétologie, p. 21, pl. 11, fig. 1). Bonnaterre used *Delphinus tursio* for his nesarnak, but this name had been proposed in 1780 by Fabricius (Fauna Groenlandica, p. 49) for a different kind of cetacean. Bonnaterre (op. cit., p. 22) and later authors suspected as much and finally True (1903, Proc. Acad. Nat. Sci. Philadelphia, p. 313) rejected the name completely. *Delphinus nesarnack* Lacépède stands, therefore, as the first valid name for the common North Atlantic bottlenosed dolphin of Bonnaterre and authors. *Delphinus truncatus* Montagu (1821, Mem. Wernerian Soc. Nat. Hist., **3**: 75, pl. 3, skull) is a synonym.

The type of *D. nesarnack* Lacépède is the figured animal, the model for which, according to Bonnaterre, is, or was, preserved as a mounted specimen in the Veterinary School of Alford [Maisons Alfort], near Charenton, a suburb of Paris. The type locality given by Lacépède is simply the North Atlantic but the type may have been stranded on a French coast or taken offshore.

The possibility that *Delphinus siculus* Rafinesque, 1810, might also be a bottlenosed dolphin was considered by True (supra cit.) but its description seemed to be inadequate for positive identification. In any case this name is antedated by *D. nesarnack* Lacépède.

The status of Delphinus carbonarius Wagner, 1846, and D. fuscus Reichenbach, 1846

Delphinus carbonarius Wagner, 1846 (Schreber's Säugth., **7**: 305, pl. 352, fig. 1 [animal]) is based on the account of the "*Black Fish* of South Sea Whalers," by Bennett (1840, Narrative of a whaling voyage round the globe from the years 1833 to 1836, **2**: 233, fig.). The same account and a skull served for the description of *Globicephala macrorhyncha* Gray (1846, Zool. Voy. H.M.S. *Erebus and Terror*, **1**, Mamm., p. 33). The type skull, from the "south seas," was presented to the Royal College of Surgeons by Bennett but is now in the British Museum (B.M. 1946.8.9.2.; cf. Fraser, 1950,

Atlantide Report, no. 1, p. 50). Bennett's blackfish was observed on the cruise of the Tuscan "in many parallels of latitude, between the Equator and 50° N. and 35° S., in the central parts of the Atlantic and Pacific Oceans; as well as off the coast of California, and in the Indian Archipelago." It is described as wholly black, with short pectorals and massive head and with $\frac{6-6}{7-8}$ teeth. Gray gives the dental formula of the type skull of *macrorhyncha* as $\frac{8}{8}$ and Fraser (supra cit., p. 55) determines it as right $\frac{7+1}{8}$, left $\frac{7+1}{8}$.

Delphinus fuscus Reichenbach, 1846 (Vollst. Naturg. des In- und Auslandes, Cetaceen, p. 77) is based on a uniformly blackish brown blackfish observed in the southwest Pacific by Lesson (1827, Voy. autour du monde, "La Coquille," Zool., p. 185). It is practically certain that this cetacean is also representative of the widely distributed short-finned blackfish (*Globicephala macrorhyncha* Gray). The *nomen nudum Globicephalus fuscus* Hamilton (1837, *in* JARDINE, Nat. Library, Mamm., **6**: 220) is presumably another reference to the animal described by Reichenbach.

All described forms in question were named in 1846 but no information is at hand as to which of the three names proposed has priority. For present purposes, however, *fuscus* and *carbonarius* are arbitrarily regarded as junior synonyms of *Globicephala macrorhyncha* Gray.

Before final disposition of the nomenclatorial problem is made, a fourth name must also be taken into account. *Globicephala sieboldii* Gray, also described in 1846 (supra cit., p. 32), has page priority over *G. macrorhyncha*. The name is based on the figure and skeleton of an immature blackfish first noticed under the name *Delphinus globiceps* Cuvier, by Temminck (1841, Fauna japonica, p. 17, pl. 27). Fraser (*in* ELLERMAN and MORRISON-SCOTT, 1951, Checklist, Palaearctic and Indian Mamm., p. 741) regards the skull, as indicated by the premaxillae, more like that of *G. macrorhyncha* or *G. scammoni* than that of *G. melaena*.

Source Reference for Phocoena G. Cuvier, 1817

Authors of current checklists suggest that *Phocoena* Cuvier, 1817, *Règne animal*, **1**: 279 (sometimes misspelled "*Phocaena*" or incorrectly dated 1816), is unavailable but that *Phocoena* Cuvier, 1817, *Nouveau dictionnaire d'histoire naturelle*, **9**: 163, is valid. Authority for the judgment "unavailable" is said to rest with Sherborn. Examination of the two works cited shows the name "*Phocœna* Cuv."

introduced in precisely the same way in both. The diagnoses and descriptions are adequate in both publications but shorter in the *Règne animal.*

In citing *Phocoena* Cuvier from the *Règne animal,* authority for the technical name is unequivocal and there is no question of its validity under the Règles. On the other hand, authorship of the article *dauphin* in the *Dictionnaire* where the name *Phocoena* appears, is not always clear. Desmarest is the ostensible author but large portions were contributed by and credited to Blainville. There is no internal evidence that G. Cuvier is responsible for any part of the article.

Meomeris Gray, 1847, Generic Name for Black Finless Porpoise

Neomeris Gray, 1846, with type *Delphinus phocaenoides* Cuvier, was said to be preoccupied by *Neomeris* Lamouroux, 1816, described as a polyp. The conflict in names was pointed out by Palmer (1899, Proc. Biol. Soc. Washington, **13:** 23), who proposed *Neophocaena* as a substitute. However, Thomas (1922, Ann. Mag. Nat. Hist., (9), **9:** 676) showed that *Meomeris* Gray (1847, List osteological specimens, Brit. Mus., p. 36), a misprint for *Neomeris,* is valid as a technical name and is the first available substitute for *Neomeris* Gray, 1846. Again, in 1925, Thomas (Ann. Mag. Nat. Hist., (9), **16:** 655) called attention to an opinion that the senior homonym *Neomeris* Lamouroux was an alga and, as a botanical term, does not affect the status of *Neomeris* Gray. Unfortunately, this revival of *Neomeris* Gray, 1846, cannot be sustained. The same name had already been used in 1844 by O. G. Costa (Ann. Acad. Aspiranti Nat., Naples, **2:** 81) for a genus of Annelida. It seems necessary, therefore, to reinstate the accidental *Meomeris* Gray, 1847, with type, *Meomeris phocaenoides* (=*Delphinus phocaenoides* Cuvier), for the black finless porpoise.

Meomeris has had scant currency but the best anatomical account of the genus with a historical summary is given under this name by G. M. Allen (1923, Bull. Mus. Comp. Zool., **65:** 233–256, pls. 1–3). This author (op. cit., p. 239) cites another misprint, *Phaœcana,* which must be added to the generic synonymy of *Meomeris.* The combination *Phaœcana* [sic] *phocœnoides* for *Delphinapterus phocœnoides* Cuvier, was published in 1918 by Robinson and Kloss (Jour. Fed. Malay States Mus., **8:** 79) and is duly recorded by G. M. Allen in his synonymy of *Meomeris phocaenoides* G. Cuvier. A third syn-

onym born of a typographical error is *Nomeris* Coues (1890, Century Dictionary, **4**: 4449 [not seen]; 1911, **7**: 4449). It was described as a subgenus of *Phocæna* (sic) with type *P. melus* (sic) (=*Delphinus melas* Temminck=*D. phocaenoides* G. Cuvier).

Status of Sotalia Gray

Sotalia was erected in March, 1866, by Gray (Cat. seals and whales Brit. Mus., p. 401) with type, by monotypy, *Delphinus guianensis* P. J. Van Bénéden. In September of the same year, Gray (Proc. Zool. Soc. London, **1866**: 213) proposed *Sousa* as a subgenus of *Steno*, to contain *Steno capensis* Gray (a *Stenella*) and *S. lentiginosus* Gray, type by subsequent designation (Iredale and Troughton, 1934, Mem. Australian Mus., **6**: 67). Gray (op. cit.) also proposed the subgenus *Tucuxa* for *Steno tucuxi* Gray.

Authors have generally referred the types of *Sousa* and *Tucuxa* and the related species *brasiliensis* E. Van Bénéden, *borneensis* Lydekker, *chinensis* Osbeck (see below), *fluviatilis* Gervais and d'Orbigny (=*tucuxi*), *plumbea* G. Cuvier, and *teuszii* Kükenthal to the prior genus *Sotalia*. However, Iredale and Troughton (supra cit.) adopted *Sousa* for *lentiginosa* (and *Steno gadamu* Gray, a *Tursiops*) without mention of *Sotalia*. They were followed by Fraser and Purves (1960, Bull. Brit. Mus. Nat. Hist., **7**, fig. 26, pl. 25 and text), who use *Sousa* to the exclusion of *Sotalia*. These authors give no clue to why or how *Sousa* may replace *Sotalia* in part or in whole. In the absence of evidence to the contrary, the name *Sotalia* is used here for all types and other species listed above except as noted.

Sotalia chinensis Osbeck, 1765, for the Chinese White Dolphin

Delphinus chinensis was proposed by ship's Chaplain Peter Osbeck in his journal of a voyage to China and the East Indies. This work, in Swedish, published in 1757, included accounts of many of the important plants and animals Osbeck saw at sea and in the countries he visited. It was natural for Osbeck, a student of Linnaeus, to name and classify the species according to the master's system. Unfortunately, Osbeck's binomials appeared one year before our starting-point of zoological nomenclature and the Law of Priority. There is, however, a German edition published in 1765 in Rostock. It was translated from the original Swedish by J. Gottlieb Georgi under the direction of Daniel Schreber. This translation was revised by Os-

beck himself and some additions were made. The technical name for the white Chinese dolphin dated from this work is valid and may be cited as *Delphinus chinensis* Osbeck (1765, Reise nach Ostindien und China, p. 337). The entire original description is: "Schneeweisse Tummler (*Delphinus chinensis*) hüpften um das Schiff, vom weiten aber konnte man sie von der gemeinen Art [i.e., *Delphinus delphis*] an nichts, als der weissen Farbe unterscheiden."

The type was observed in the Canton River, China, November 27, 1751. The description, though brief, is adequate and the comparison apt. The white dolphin of the Chinese coast can be nothing else than *Delphinus chinensis* Osbeck, currently referred to the genus *Sotalia*.

A third edition in English was translated from the German by John Reinhold Forster and published in London in 1771. The work, entitled *A voyage to China and East Indies*, is in two volumes. The binomial *Delphinus chinensis* with full description appears on page 27 of the second volume.

The name *Delphinus sinensis* Desmarest, 1822 (Mammalogie, p. 514), adopted by Cuvier, 1836 (Hist. nat. cétacés, p. 213) is merely an emendation of *D. chinensis* Osbeck.

Status of Pontoporia Gray, 1846

Pontoporia Gray, 1846, is the earliest valid generic name for the La Plata dolphin, *Delphinus blainvillei* Gervais. This widely circulated name is not a homonym of *Pontoporeia* Kroyer, 1842, a crustacean, nor has it been proven that the name is antedated by *Pontoporia* Agassiz, 1846 (Nomencl. Zool., p. 305), an invalid emendation of *Pontoporeia* Kroyer. *Stenodelphis* d'Orbigny and Gervais, 1847, used by some authors for *Pontoporia* Gray, is a junior objective synonym.

Generic Names for the Gangetic Dolphin With a Note on Sectional Names

Susu Lesson, 1828 (Compl. oeuvr. Buffon, pl. 3, fig. 3 [caption], pp. 215, 440 [index]), with type, by monotypy, *Susu platanista* Lesson (=*Delphinus gangeticus* Lebeck), appears to be the earliest valid generic name for the Gangetic dolphin or susu. A second name, *Platanista*, was proposed in 1830 by Wagler (Nat. Syst. Amphibien, p. 35) as a classical substitute for the barbaric *Susu*. Wagler designated *Delphinus gangeticus* Lebeck as type with *Susa* [sic] *Plantanista* [sic] Lesson, a synonym. In 1825, G. Cuvier (Recherches sur les ossemens fossiles, ed. 3, pt. 1, p. 79) referred to the susu as "prob-

ablement le *platanista* de Pline [Hist. Nat., lib. IX, cap. XV.]" Obviously, Cuvier was not coining a technical term, but Neave (1940, Nomen. Zool., **3**: 780) lists it as a generic name, though with some doubt.

Sousou Cuvier, 1836 (Hist. nat. cétacés, p. 257) and *Soosoo* Hamilton 1837 (*in* JARDINE, Nat. Library, Mamm., **6**: 254) are emendations of *Susu* Lesson. *Sousa* Gray, 1866, is a synonym of *Sotalia* Gray, 1846 (see above, p. 553).

Still another contribution to the generic synonymy of the susu is *Platanistina*, regarded by Neave (loc. cit.) as an "emend[ation] pro [*Platan*]*ista* Wagler 1830 [by] Gray (1846), Zool. Ereb. Terr. (Cetac.), 45." In Gray's opus (Zool. Voy. H.M.S. *Erebus and Terror*, **1**, Mamm.) *Platanistina* appears on page 45 as a supergeneric taxon with *Platanista* Wagler the only included genus. In his classification (p. 24) Gray divides the family Delphinidae "into sections by the forms of the skull, and these into genera by the form and description of the teeth, and by the absence or presence of the dorsal fin." The "sections," each with its obvious type genus, are *Hyperoodontina, Platanistina, Delphinina, Orcadina* [from *Orca*, now *Orcinus*], *Monocerina* and *Iniina*. These sectional or tribal names are regarded in zoological nomenclature as co-ordinate with family names. *Platanistina*, if recognized as a generic name, would date from Neave, 1940, who treats it as such, and not from Gray, 1846, who does not.

In connection with the use of the prior name *Susu*, the supergeneric names Susuoidea, Susuidae, and Susuinae would replace Platanistoidea, Platanistidae and Platanistinae, respectively.

The Le Hâvre Whale and Generic Names for Beaked Whales

A beaked whale stranded September 9, 1825, on the beach of Sainte-Adresse near Le Hâvre, was regarded by Blainville (1825, Bull. Soc. Phil., Paris, **4**: 139) as representative of the "bottle-head" of Dale (1732, History and antiquities of Harwich and Dovencourt, ed. 2, p. 411, fig. 14). A second notice by Blainville (1826, op. cit., **5**: 193, pl. for August, 2 figs.) included a figure of the animal and another of its skull. The same year, F. Cuvier (1826, *in* GEOFFROY and CUVIER, Hist. Nat. Mamm., **6**, livr. 53, pl.) published a description and colored figure of the Le Hâvre whale under the name *dauphin de Dale*. Blainville's figure resembles the engraving of Dale's "bottle-head" or bottlenosed whale (= *Hyperoodon ampullatus* Forster,

1770) while Cuvier's representation is that of a beaked whale (*Mesoplodon* of authors). The skull, however, as figured and described by Blainville and later authorities (cf. Gervais, 1859, Zool. Pal. Françaises, ed. 2, p. 291, pl. 40, fig. 1) appears to be conspecific with that of the beaked whale, *Physeter bidens* Sowerby, described in 1804.

The first technical name for the Le Hâvre beaked whale, *Heterodon dalei*, proposed by Lesson in 1827 (Man. Mamm., p. 419) perpetuated the erroneous association with Dale's "bottle-head." Lesson further aggravated the misrepresentation by including *Delphinus edentulus* Schreber (=*Hyperoodon ampullatus* Forster) in the synonymy.[1]

The following year, Lesson (1828, Compl. oeuvr. Buffon, **1**, Cétacés, pp. 149, 155, 440, pl. 3, fig. 1) erected *Aodon* to contain *Heterodon dalei*, now *Aodon dalei* (op. cit., pl. 3, fig. 1) with synonyms (p. 155) "*Delphinus edentulus*, Schreb., Desm.; *dauphin de Dale*, de Blainville. F. Cuvier." The entire description is based on the Le Hâvre whale, and *Aodon* Lesson, 1828, would be the prior generic name for beaked whales were it not preoccupied by *Aodon* Lacépède, 1798, a genus of fish.

Heterodon Blainville (1817, *in* DESMAREST, Nouv. dict. d'hist. nat., **9**: 175) used by Lesson in the original description of *dalei*, is a composite of *Monodon* Linnaeus, *Hyperoodon* Lacépède and the unidentifiable *Epiodon* Rafinesque (see below, p. 564). Its type, *Delphinus butskode* Blainville (now selected;=*D. butskopf* Bonnaterre, 1789) is a *Hyperoodon* and the generic name itself is invalidated by *Heterodon* Latreille, 1801, a reptile.

The next name for consideration is *Nodus* Wagler (1830, Nat. Syst. Amphibien, p. 34, and footnotes 2, 3). It was explicitly proposed as a substitute for the preoccupied *Aodon* Lesson. Its type species, identical with that of *Aodon*, is cited thus: "*Delphinus edentulus* Schreb., Cuv. Mammif. Liv. 53. (*Heterodon Dalei* Less. Man. de Mammal. p. 419. Id. *Aodon Dalei* Oeuvr. de Buff. p. 155. t. 3. f. 1)." Wagler's concept of *Delphinus edentulus* in the place cited is clearly not that of Schreber, which is a bottlenosed whale, but that of Lesson and Cuvier, which is the beaked whale of Le Hâvre. Inasmuch as *Nodus* Wagler is erroneously listed as a synonym of *Hyperoodon* by modern authors (cf. Ellerman and Morrison-Scott, 1951,

[1] Ellerman and Morrison-Scott (1951, Checklist, Palaearctic and Indian Mamm., p. 723) list the Le Hâvre whale with the original name *Heterodon dalei* in the synonymy of *Hyperoodon ampullatus* Forster, and assign it the erroneous type locality, "Harwich, England." On page 725 (op. cit.) the same animal, under the name *Aodon dalei* Lesson, is correctly listed in the synonymy of *Mesoplodon* [=*Nodus*] *bidens* Sowerby but the type locality given is "North European waters."

Checklist, Palaearctic and Indian Mamm., p. 722) it cannot be over-emphasized that the true *Delphinus edentulus* Schreber is *not* the type of the genus. It is only a name wrongly applied to the Le Hâvre beaked whale, *Aodon dalei* Lesson (=*Heterodon dalei* Lesson) which *is* the type. For all the names and authors involved in the cited synonymies, no other species is included in either *Aodon* or *Nodus* as originally proposed and no other species can be designated type. *Nodus* Wagler, therefore, appears to be the earliest valid name for beaked whales currently referred to *Mesoplodon*.

In his remarks on *Aodon* Lesson, Wagler (op. cit., p. 34, footnote 3) used the misspelling or typographical error, *Anodon*. As defined, *Anodon* Wagler (not *Aodon* Lesson) includes only the *true Delphinus edentulus* Schreber, here designated type, and *Delphinus butzkopf* [sic] Bonnaterre. *Anodon*, thus, is a synonym of *Hyperoodon* Lacépède. It is also a junior homonym of *Anodon* Smith, 1829, a reptile.

The next generic name for the Le Hâvre whale is *Micropterus* Wagner, 1846 (Schreber's Säugth., **7**: 281, 352). Its type, *Delphinus micropterus* G. Cuvier (1829, Règ. anim., ed. 2, **1**: 288), is merely a new name for *Heterodon dalei* Lesson. *Micropterus* Wagner is invalidated by *Micropterus* Lacépède, 1802, a genus of fish. In 1849, however, Eschricht (Kongl. Danske Vidensk. Selsk. Skrift., (5), **1**: 97) independently erected the same generic tautonym for *Delphinus micropterus* Cuvier but wrote it *Micropteron*. This form of the name is valid.

In 1850, Gervais (Ann. Sci. Nat., Paris, (3), **14**: 16) proposed two generic names for beaked whales. The first, *Dioplodon*, with type by original designation, *Delphinus densirostris* Blainville, appears on lines 19–20 of the page cited. The second, *Mesoplodon*, with type by original designation, *Delphinus sowerbensis* Blainville (=*Physeter bidens* Sowerby) is on line 26 of the same page. Subsequently, at least six more generic names were proposed for beaked whales by various authors. They are included in the following synonymy.

Genus **NODUS** Wagler

Aodon Lesson, 1828, Compl. oeuvr. Buffon, **1**, Cétacés, pp. 155, 440, pl. 3, fig. 1 (animal with caption)—type species, *Aodon Dalei* Lesson [=*Physeter bidens* Sowerby], by monotypy; generic name preoccupied by *Aodon* Lacépède, 1798, a genus of fish.

Nodus Wagler, 1830, Nat. Syst. Amphibien, p. 34—new name for *Aodon* Lesson, preoccupied; type species, "*Delphinus edentulus* Schreb., Cuv. Mammif. Livr. 53. (*Heterodon Dalei* Less. Man. de Mammal. p. 419. Id. *Aodon Dalei* Oeuvr. de Buff. p. 155. t. 3. f. 1)" [=*Physeter bidens* Sowerby].

Micropterus Wagner, 1846, Schreber's Säugth., **7:** 281, 352—subgenus of *Delphinus;* type species, *D. micropterus* Cuvier [=*Physeter bidens* Sowerby] by tautonymy and monotypy; generic name preoccupied by *Micropterus* Lacépède, 1802, a genus of fish.

Micropteron Eschricht, 1849, Kongl. Danske Vidensk. Selsk. Skrift., (5), **1:** 97—type species, *Delphinus micropterus* Cuvier [=*Physeter bidens* Sowerby], by tautonymy and monotypy.

Dioplodon Gervais, 1850, Ann. Sci. Nat., Paris, (3), **14:** 16 (lines 19–20)—type species, *Delphinus densirostris* Blainville by original designation and monotypy; Gervais, 1850, Compt. rend. Acad. Sci. Paris, **31:** 512 (extract of previous article).

Mesoplodon Gervais, 1850, Ann. Sci. Nat., Paris, (3), **14:** 16 (line 26)—type species, *Delphinus sowerbensis* Blainville [=*Physeter bidens* Sowerby] by original designation and monotypy.

Mesodiodon Duvernoy, 1851, Ann. Sci. Nat., Paris, (3), Zool., **15:** 41—included species, *Mesodiodon Sowerbyi* Duvernoy [type=*Delphinus sowerbensis* Blainville=*Physeter bidens* Sowerby], *Mesodiodon micropterum* [=*Delphinus micropterus* Cuvier=*Physeter bidens* Sowerby], *Mesodiodon densirostre* [=*Delphinus densirostris* Blainville], *Mesodiodon longirostre,* "qui est le *Ziphices* [sic] *longirostris* de Cuvier [fossil]."

Mesiodon Gray, 1866, Cat. seals and whales Brit. Mus., p. 349—misspelling of *Mesodiodon* Duvernoy, 1851.

Diplodon Gray, 1866, Cat. seals and whales Brit. Mus., p. 349—misspelling of *Dioplodon* Gervais, 1850.

Dolichodon Gray, 1866, Cat. seals and whales Brit. Mus., p. 353—subgenus of *Ziphius* Cuvier; type species, *Ziphius layardii* Gray, by monotypy.

Callidon Gray, 1871, Ann. Mag. Nat. Hist., (4), **7:** 368—type species, *Mesoplodon Güntheri* Krefft [=*Ziphius layardii* Gray], by monotypy.

Neoziphius Gray, 1871, Suppl. Cat. seals and whales Brit. Mus., p. 101—type species, *Neoziphius europaeus* Gervais [=*Dioplodon europaeus* Gervais], by monotypy.

Oulodon von Haast, 1876, Proc. Zool. Soc. London, **1876:** 457—type species, *Mesoplodon grayi* Haast, by monotypy; Von Haast, 1877, Trans. New Zealand Inst., **9:** 450 (characters).

Paikea Oliver, 1922, Proc. Zool. Soc. London, **1922:** 574—included species, *Berardius hectori* Gray [type, by original designation], *Mesoplodon mirus* True.

Status of Dioplodon europaeus Gervais

Dioplodon europaeus Gervais, 1852 (Zool. Pal. Fr., ed. 1 [1848–1852], p. 4) is said to be a *nomen nudum* (cf. Ellerman and Morrison-Scott, 1951, Checklist, Palaearctic and Indian Mamm., p. 725).[1] I

[1] Cited here as "1852 *Dioplodon europaeus* Gervais. Zool. Pal. Fr. *2,* text to pl. 40, *nom. nud.*" If correctly cited, it is puzzling that a binomial proposed with text to an illustration would be a *nomen nudum.* Is it possible that the "plate 40" is the same referred to by True, (1907, cited below)?

have not seen the first cited work. The same name, however, appears on pages 289, 298 and 299 of the second revised edition of Gervais' work, published in 1859. A history of the type specimen with some allusions to its characters is given here but nothing else which can be construed as a valid description. It seems, therefore, that neither the first nor the second edition of the *Zoologie et Paléontologie Françaises* can be cited for the original description of *Dioplodon europaeus* Gervais. The same opinion was expressed in 1907 by True (Science, **26**: 796). In 1910, however, True reverted to the name *Mesoplodon europaeus* in his account of the ziphiids in the collection of the U. S. National Museum (Bull. U. S. Nat. Mus., **73**: 11). No explanation was given, but he cited the two editions of Gervais' work as authority for the name and added "pl. 40, figs. 3–6," to the 1859 reference. The figures in question, in the Atlas to the second edition of *Zoologie et Paléontologie Françaises*, are of the skull and mandible of an Indian Ocean representative of a correctly identified and captioned *Dioplodon densirostris* Blainville!

Notwithstanding the disputed bibliographic references, the name *Dioplodon europaeus* was published with a valid description in 1855, by Gervais in the second volume (p. 320) of his *Histoire naturelle des mammifères* (Paris). In 1863, Van Bénéden (Mém. couronnés et autres Mém., Acad. Roy. Belgique, **16**: 18) also described *Dioplodon europaeus* in a comparison of the type skull with his *Ziphius indicus*. The name for the European beaked whale stands, therefore, as *Nodus europaeus* Gervais, 1855, with *Dioplodon gervaisi* Deslongchamps, 1866, a synonym.

Type Species of Balaenoptera Lacépède

The generic name *Balaenoptera*, as conceived by Lacépède (1804, Hist. nat. cétacées, pp. xxxvi, 114), consists of two subgenera and four species. The first, or *premier sous-genre*, comprises only *Balaenoptera gibbar* [=*Balaena physalus* Linnaeus]. The *second sous-genre* includes *Balaenoptera jubartes* Lacépède [=*Balaena musculus* Linnaeus], *Balaenoptera rorqual* Lacépède [=*Balaena physalus* Linnaeus], and *Balaenoptera acutorostrata* Lacépède. These species are numbered 1 to 4, respectively. In the Sonnini edition of Lacépède's work, also published in 1804, the phrase *première espèce* is used to indicate the type of each genus. Other species of the same genus are merely numbered consecutively as in the original edition. The *première espèce*, or type, of the first or typical section of the genus *Balaenoptera* is the fin whale, the "baleinoptère [or] baleine à nageoires," *Balaenoptera gibbar*

Lacépède, by virtual tautonymy as well as monotypy. This is the sense given by Lacépède himself (op. cit., footnote, p. xxxvi; Sonnini ed., footnote, p. 193).

Balaenoptera rostrata Fabricius (not Müller) "considered" by Gray (1847, Proc. Zool. Soc. London, **1847**: 90) as type of the genus is a subjective synonym of *Balaenoptera acutorostrata* Lacépède. As such, it can be regarded as the subsequently designated type of only the *second sous-genre* of *Balaenoptera*. Flower (1865, Proc. Zool. Soc. London, **1864**: 395) followed Gray by clearly designating *B. rostrata* Fabricius as the type of "*Balaenoptera* Lacép. *pars*." The following year Gray (1866, Cat. seals and whales Brit. Mus., p. 382) raised this "*pars*" of *Balaenoptera* Lacépède, typified by *Balaenoptera rostrata* Fabricius (or *B. acutorostrata* Lacépède), to full generic rank and named it *Fabricia* (not *Fabricia* Blainville, 1828, a genus of Vermes). *Balaenoptera gibbar* Lacépède (*Balaena physalus* Linnaeus) remains, as it always has been, the first designated type of the typical section of *Balaenoptera* Lacépède.

Status of Agaphelus Cope

Agaphelus Cope is currently listed as a synonym of *Eschrichtius* Gray. This appears to be incorrect.

In 1868 Cope (Proc. Acad. Nat. Sci. Philadelphia, **20**: 159) examined "a portion of a specimen of [he thought] the *Scrag Whale* of Dudley, *Balaena gibbosa* of Erxleben, and ascertained that it represented a genus not previously known." Cope named the genus *Agaphelus*. He then appended a second species, *Agaphelus glaucus* Cope, the "gray whale of the coasts of California." In 1869, Cope (op. cit., **21**: 15) decided that *Agaphelus glaucus* was generically different and made it the type of a new genus, *Rhachianectes* Cope. Thus, *Agaphelus* was left with its originally designated type, the "portion of a specimen" identified with "*Balaena gibbosa* Erxleben," or *Agaphelus gibbosus* Cope. It was not until 1884 that Cope (Amer. Nat., **18**: 1124) revealed that the bones he identified as *Balaena gibbosa* "are probably those of *Balaenoptera rostrata* [=*B. acutorostrata* Lacépède]." If this determination is final, then *Agaphelus* Cope is an objective synonym of *Fabricia* Gray (see above) and, like it, falls into the synonymy of *Balaenoptera* Lacépède.

The history of the scrag whale and the species assigned to *Agaphelus* were reviewed by Van Diense and Junge (1937, Temminckia, **2**: 178). Evidently, these authors (op. cit., p. 181) concluded that since the type species of *Agaphelus* proved to be a *Balaenoptera*, the

next species, *Agaphelus glaucus*, moved into the void and became the new type of the genus. The Règles provide, however, that a genus stands or falls on the basis of its original type species and that the type species cannot be altered or replaced. *Agaphelus glaucus* Cope, in spite of its name and the nomenclatorial vicissitudes of *Agaphelus gibbosus* Cope (not Erxleben) was not and never can be, type of *Agaphelus*. For an unnecessarily drastic recommendation for disposition of *Agaphelus* Cope as a synonym of *Balaenoptera* see True (1904, Smithsonian Contr., **33**: 105).

Balaena glacialis Müller, 1776, for North Atlantic Right Whale

Balaena glacialis Müller, 1776 (Zoologiae Danicae Prodromus, seu animalium danicae et norvegiae indigenarum. . . , p. 7), appears to be the earliest name for the North Atlantic right whale. The same name is cited in current lists but dated from Borowski, 1781, and, in older works, from Bonnaterre, 1789.

Müller's description of the right whale consists of the following indications: "*B. glacialis*. N[orwegian] *Sild-Qval, Lille-Hval, Nord-Kaper*. Eg. Gr. c. 6 [=Hans Egede, 1742, Des alten Grönlandes Naturell-Historie, chap. 6], Aph. 3, 594 [=H. von Aphelen, Bomare's Natur Historie, vol. 3, p. 594]."

These indications are followed by an asterisk(*), meaning that the species is not described in a Linnaean work and a dagger(†), meaning that the animal is mentioned by other authors.

I have not seen the basic references cited by Müller for the account of *B. glacialis*. There can be no doubt, however, regarding the applicability of this name to the *nordcaper* of Norwegians, i.e., the right whale of North Cape, Norway. The only other similar species, the Greenland right whale, *Balaena mysticetus*, is listed as a distinct species by Müller on page 6 of his "Prodromus."

Balaena japonica Lacépède, 1818, for North Pacific Right Whale

Balaena japonica Lacépède, 1818 (Mem. mus. d'hist. nat., Paris, **4**: 469, 472), from Japanese waters is listed as a dubious synonym of *Eubalaena sieboldii* Gray, 1864, by Ellerman and Morrison-Scott (1951, Checklist, Palaearctic and Indian Mamm., p. 718) and by Hall and Kelson (1959, Mamm. N. Amer., p. 840). There is no need for ambiguity here. If *B. japonica* can be identified at all as a

Eubalaena, it must necessarily be the North Pacific representative of this genus. Actually, the original description and classification of *Balaena japonica* which follows, leaves no doubt on this score:

"L'évent est placé un peu au-devant des yeux; la nageoire caudale est grande; on voit sur le museau trois bosses garnies de tubérosités, et placées longitudinalement; la couleur générale est noire; le ventre est d'un blanc éclatant, et cette grande place blanche est comme festonnée profondément dans son contour; les mâchoires, les bras ou nageoires pectorales et la caudale sont bordés de blanc; des lignes courbes, noires et très-fines relèvent le blanc qui est autour des yeux et de la base des pectorales; on distingue des groupes de petites taches blanches sur la mâchoire inférieure; et d'autres petites taches de la même couleur sont répandues sur le museau."

The taxonomic position of *B. japonica* is shown in a key with diagnoses (op. cit., pp. 472–473) of the genera, subgenera and species of baleen whales. This key is proposed as a supplement to the general classification, or *Tableau*, in Lacépède's classic *Histoire naturelle des cétacées*, published in 1804. *Balaena japonica* is here included among the right whales. Its systematic position is given as "après la Baleine nord caper [=*Eubalaena glacialis*]," which, in the original *Tableau*, follows the *première espèce*, or type, *Balaena mysticetus*. This is precisely the arrangement used in modern checklists.

The only possible objection to recognition of *Balaena japonica* Lacépède as the earliest valid name for the North Pacific right whale may be the fact that its description is based on a drawing by a Japanese artist and not on the actual specimen. Such objection, if made, would be unrealistic. The original descriptions of nearly all recognized species of large whales are based on nothing better. *Balaena sieboldii* Gray, 1864 (Ann. Mag. Nat. Hist., **14**: 349) currently substituted for *japonica*, is itself a third hand description. Its basis is a bibliographic reference to *Balaena antarctica* Temminck, 1841 (Fauna Japonica, p. 18, pls. 28, 29), which, in turn, is based on drawings copied from a porcelain model made by a Japanese artist! These copies of the original figure of the real animal agree in all essential characters with *japonica* Lacépède. This last name for the North Pacific right whale was well established during the last century and most authors (cf. Van Bénéden and Gervais, 1880, Ostéographie des cétacées, p. 111) include *sieboldii* Gray in its synonymy.

Valid characters for specific separation of the right whales of the North Atlantic (*glacialis* Müller, 1776), the North Pacific (*japon-*

ica Lacépède, 1818), and the southern hemisphere (*australis* Desmoulins, 1822), have not been demonstrated. Tomilin (1957, Mamm., eastern Europe and northern Asia, **9**: 75) treats *sieboldii* [=*japonica*] as a subspecies of *Eubalaena glacialis* while Nishiwaki (1957, Coll. Rep. Fish. Sci., Tokyo, p. 150) recognizes the taxon *E. glacialis japonica* Lacépède. The same relationship to *E. glacialis* probably obtains in the case of *australis*.

Balaena lunulata Lacépède, 1818, as described and classified in the same work (supra cit., pp. 470, 473) is another Japanese right whale, indistinguishable from *B. japonica*, which has page and line priority.

The name *Balaena antarctica*, used by Temminck (supra cit.), was originally proposed by Lesson (1828, Compl. oeuvr. Buffon, **1**, Cétacés, p. 391) as a substitute for *Balaena australis* Desmoulins, 1822, based on the South African right whale.

Status of Anarnak Lacépède, 1804, and Ancylodon Illiger, 1811

The genus *Anarnak* Lacépède, 1804 (Hist. nat. cétacées, pp. xxxviii, 164) is based solely on *Anarnak groenlandica* Lacépède, which is a substitute name for *Monodon spurius* Fabricius, 1780 (Fauna Groenlandica, p. 31). *Ancylodon* Illiger, 1811 (Prodr. Syst. Mamm. Avium, p. 142) is based on the same species. Current checklists (cf. Ellerman and Morrison-Scott, 1951, Checklist, Palaearctic and Indian Mamm., p. 722; Hall and Kelson, 1959, Mamm. N. Amer., p. 811) list *Anarnak* as a doubtful synonym of *Hyperoodon* Lacépède and its type as a *species inquirenda*. On the other hand, *Ancylodon* is cited as a clear synonym of *Hyperoodon* and its type species is equated with *Balaena ampullata* Forster, 1770.

Monodon spurius Fabricius (=*Anarnak groenlandica* Lacépède) is characterized by a dorsal fin, black, elongate body and two small teeth in the upper jaw. Were it not for the probable *lapsus calami* of locating the teeth in the upper instead of the lower jaw, identity of *Monodon spurius* with *Balaena ampullata* would be plausible and page priority of *Anarnak* Lacépède, 1804, over *Hyperoodon* Lacépède, 1804, indicated. In view of the discrepancy, however, it is best to conserve the currently recognized *Hyperoodon* and treat *Anarnak* Lacépède, *Ancylodon* Illiger and their common type species, *Monodon spurius* Fabricius, as *Incertae sedis*.

Anarnacus Duméril, 1806 (Zool. analytique, p. 28) is merely an emendation of *Anarnak* Lacépède and follows it as an objective syn-

onym. Other emendations proposed by different authors in various works are *Anarnac* and *Anarnakus*.

Status of Delphinorhynchus Blainville, 1817, and Rhamphocetus Gloger, 1842

Delphinorhynchus Blainville, 1817 (*in* DESMAREST, Nouv. dict. d'hist. nat., Paris, **9**: 151) was proposed as a subgenus of *Delphinus*. The originally included species are *D. geoffrensis* Blainville (=*Inia geoffrensis* Blainville), *D. shawensis* Blainville (=*Delphinus gangetica* Lebeck=*Susu gangetica* Lebeck), *D. pernettensis* Blainville (=*Stenella pernettensis* Blainville), and *D. coronatus* Fréminville (1812, Bull. Soc. Phil. Paris, **3**: 71), now designated type of the genus.

Delphinus coronatus Fréminville is said to be 30–36 feet long and 15 feet in girth, its head rounded, with two yellow concentric circles on top, beak pointed, with 48 small, sharp, conical teeth in the lower jaw, 30 in the upper. It inhabits the Arctic seas from 74° northward and is particularly abundant in waters around Spitzbergen.

Certain characters and the geographic distribution of *Delphinus coronatus* have led authors to include the species, albeit with a query, in the synonymy of *Hyperoodon ampullatus* Forster. This allocation would imply that *Delphinorhynchus* should also be listed as a dubious synonym of *Hyperoodon*. It is obvious, however, that *D. coronatus* is unidentifiable and possibly mythical. Confusion and the false implication of pending enlightenment are avoided by consigning *Delphinorhynchus* Blainville with its type, *Delphinus coronatus* Fréminville, to the limbo of *Incertae sedis*.

Rhamphocetus Gloger, 1842 (Hand- und Hilfsbuch der Naturgeschichte, **1**: xxxiv, 169), with type, by monotypy, *R. coronatus* (=*Delphinus coronatus* Fréminville), is an objective synonym of *Delphinorhynchus* Blainville.

Status of Epiodon urganantus Rafinesque, 1814

The type of *Epiodon urganantus* Rafinesque (1814, Précis des decouvertes et travaux somiologiques . . ., p. 13) was sighted in the Mediterranean Sea near Sicily. It is said that it lacked a dorsal fin, that it had several upper but no lower teeth and that its upper jaw extended forward beyond the lower. Nothing like it has been seen before or since. The generic and specific names *Epiodon* and *E. urganantus* are currently classified as dubious synonyms of *Ziphius* G.

Cuvier and *Z. cavirostris* G. Cuvier, respectively (cf. Ellerman and Morrison-Scott, 1951, Checklist, Palaearctic and Indian Mamm., pp. 723, 724). In my opinion, *Epiodon urganantus* Rafinesque has nothing to do with any ziphiid. The animal is unidentifiable and possibly mythical.